

# **Update on Core Monitoring Plan**



Prepared for the AMWG March, 2005

### **History**

- Concept discussed October 2003-March 2004
- Core Monitoring Ad Hoc formed by TWG March 30, 2004
- Core Monitoring Team 1<sup>st</sup> meeting Flagstaff April 9, 2004
- Position statement to AMWG and TWG April
- Core Monitoring Team 2<sup>nd</sup> meeting, Phoenix May 4, 2004
- Second update memo to AMWG and TWG May, 2004



## **History (cont.)**

- Science Advisors review first draft June, 2004
- GCMRC revises based on comments from SAB
- Second draft presented to AMWG/TWG Aug, 2004
- Core Monitoring Team 3<sup>rd</sup> meeting Sep, 2004
- GCMRC revises plan to address team comments
- Third draft presented to AMWG Oct, 2004 (on time)
- Comments and responses compiled Jan, 2005
- CMT meeting to discuss process leading to revision and recommendation to AMWG – Feb, 2005



## Process and assumptions established by the CMT April 9

- Collaborative This is a fully cooperative venture involving GCMRC, TWG ad hoc members, with review by SAB
- Decision points
- Memos





## **Core monitoring**

Core monitoring is consistent, long-term, repeated measurements using scientifically accepted protocols to measure status and trends of key resources to answer specific management questions. Core monitoring is implemented on a fixed schedule regardless of budget or other circumstances (e.g., water year, experimental flows, temperature control, stocking strategy, non-native control, etc.) affecting target resources.



### Resource categories

- A. Sediment
- B. Wildlife/Vegetation
- C. Fish
- D. Food base
- E1. Cultural Resources
- Traditional cultural properties
- E2. Register eligible historic properties
- F. Hydrology
- G. Water Quality
- H. Recreation
- I. Threatened and endangered species
- J. Power
- K. Economics
- L. Non-native species



## Relevant questions

- What and why do managers and others need to know?
- Where do they want to know it?
- How frequently do they need to know?
- What are the general methods to obtain this information?
- What is the level of precision/accuracy needed
- How will the monitoring data be presented and is it answering the managers questions (what are the metrics of success?



## What did we get?

- A plan that accomodated everyone's issues of concern
- A projected budget of over \$5.6 million
- Concern that the TWG had inadequate time to comment on the plan



## Format of plan changed in response to early comments

- Current core monitoring capabilities
- Future core monitoring programs (R&D)





## **Current capabilities**

- Lake Powell
- GCD releases
- GCD power and revenue
- Surface water measurements
- QW
- Fisheries (LFT, HBC)



#### **R&D** elements

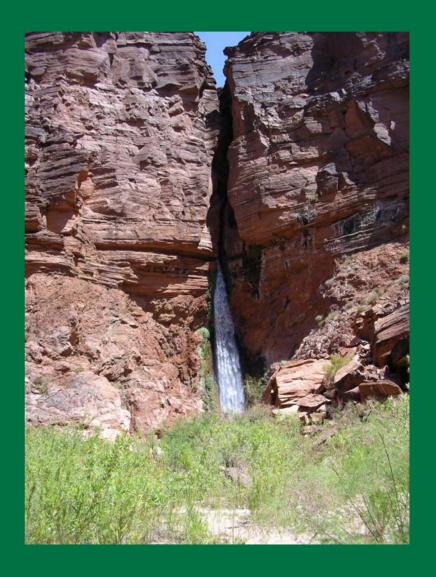
- QW (R&D): nutrients, major ions, C budgets, etc.
- Fine sediment
- Coarse sediment
- Aquatic food web
- Downstream fishes in main stem (HBC aggregations, below Diamond Creek, etc.)

- Fine sediment (terrestrial)
- Coarse sediment (terrestrial)
- Terrestrial veg.
- KAS
- SWFL
- Register & non-register eligible HP's
- Recreational resources (experience, campsites, economics)



## Written comments received during an extended comment period

- NPS
- FWS
- GCWC
- CREDA
- SAB
- BOR





## Comments received (cont.)

- Comments compiled
- Draft responses provided to CMT





### **Green category**

- Lake Powell Quality of Water
- Downstream Integrated Quality-of-Water
- Streamflow & Suspended-Sediment Transport
- Rainbow Trout in the Lees Ferry Reach
- Humpback Chub in the Little Colorado River
- Airborne Remote Sensing (Digital, Orthorectified Imagery
- DBMS Storing New Core-Monitoring Data
- Geographic Information System Support Fieldwork& Overflights



## Yellow category

- Impacts of Coarse-Grained Inputs
- Fine-Sediment Storage
- Terrestrial Ecosystem
- T&E Wildlife Kanab Ambersnail
- T&E Wildlife Southwest Willow Flycatcher
- High Resolution LiDAR & Very High Resolution LIDAR for arch sites)



### **Red category**

- Food Web (Research Toward Development of a Monitoring Plan)
- Downstream Fishes in the Main Channel
- Cultural Resources Monitoring -Archaeological Sites (TBD)
- Tribal Monitoring of TCPs and culturally important resources (TBD)
- Recreational Monitoring visitor use & experiential attributes TBD)
- Recreational Monitoring campsites (TBD)



#### **Process**

- Evaluate green list against:
  - responses to written comments
  - AMWG priorities
  - MO's
  - accuracy, precision, and desired future conditions
  - fiscal limitations



#### What's next?

- 1. CMT meeting Mar 10-11
- 2. April 1 mailout of draft 4 to SAB
- 3. April 10 review finished
- 4. CMT meeting Apr 11-12
- 5. Revise draft 5 to mail to TWG May 3
- 6. Proposed TWG meeting week May 16
- 7. Final CMP proposal to AMWG June 1
- 8. Proposed AMWG meeting after July 1



## Does the AMWG support this new process and schedule?

